

A. j. teutonia (Fab.) in Australia) and a Lord Howe Island record of Hawkins (1943) is probably the result of a strong migration but one which, in the absence of larval food plants on Lord Howe, could not result in establishment of the species there. *A. j. teutonia* has been recorded from Lord Howe Island in similar circumstances (Smithers, 1970). It is hoped to continue observations on Norfolk Island to see how long the re-establishment lasts.

Norfolk Island material referred to in this paper is housed as follows: 2♂, Lathy/Godman Salvin Coll. 1896-12; 1♂, Moore Coll. 1907-190; 1♀, Crowley Bequest, 1901-78; 1♂, ex Distant Coll. Rothschild Bequest 1939-1. (The above specimens are in the British Museum. Years given do not refer to dates of collection but to accession to the British Museum (Natural History) collections). 11♂, 1♀ collected at various times during 1971 (by O.R.E.) (in the Australian Museum); 46♂, 36♀, bred from larvae on *Capparid nobilis* emerged on 30.xii.-31.xii.1972 (reared O.R.E.). (2♂, 2♀ in British Museum, 2♂, 2♀ in Australian National Insect Collection, remainder in the Australian Museum).

Acknowledgements

We would like to thank Mr. R. I. Vane-Wright for examining specimens in the British Museum (Natural History) on our behalf, and for commenting on this note in draft form and Mr. E. A. Startin-Field for his letter referring to *A. j. peristhene* on Norfolk Island.

References

- Hawkins, C. N., 1943. The insects of Norfolk Island, including a preliminary report on a recent collection. *Ann. Mag. nat. Hist. Lond.* (11)9(60): 865-902.
- Olliff, A. S., 1888. Report on a small zoological collection from Norfolk Island. Part IV. Insecta. *Proc. Linn. Soc. N.S.W.* (2)2(4): 1001-1014.
- Smithers, C. N., 1970. Observations on Lord Howe Island butterflies. *Aust. Zool.* 15(3): 377-379.

BOOK REVIEW

TRICHOPTERA by H. Malicky in the *Handbuch der Zoologie* 4. Band, 2. Hälfte, 2. Teil, 29. Beitrag: 114 pages, 96 line drawings. Walter de Gruyter, Berlin and New York. Sept., 1973. Text in German. Price DM 130.00 (\$37.00 approx.).

This work is a text book where each individual part of the volume deals with a separate insect order. The large format pages (22 x 30 cm) are printed in double columns, headings and subheadings are clear and easily readable. The detailed index at the beginning of the volume is printed on yellowish paper thus allowing easy separation when parts are bound in one volume.

The present part written by Dr. Hans Malicky of the Biological Station Lunz, Austria, summarizes all aspects of research in the order Trichoptera. This is the first time for many years that a publication of this kind has become available in a single volume. The opening chapter deals

with the history of the study of caddis-flies, although this is done very briefly, it is still sufficient to give a clear picture of the pioneering work and the more recent fields of research. This is followed by two brief chapters describing the main characteristics of the order, palaeontology and evolution.

The systematic arrangement of families closely follows that suggested and described by Ross 1967 (*Ann. Rev. Ent.* 12: 169-206), with only a few modifications; three families have been added—Arctopsychidae, Ecnomidae and Tasimiidae; and two family names changed—Rhynopsychidae is replaced by Kokiriidae and Thremmidae changed to Thremmatidae. The family descriptions are short and concise, giving only the most important characters; all sub-families are listed; reference is made to the important genera; and the approximate number of species in each family is also indicated. In the chapter on distribution the major outlines of zoogeographic problems are analysed. Discussion is based on the major zoogeographic works for each region which are listed in the first paragraph.

The chapter on ecology has been subdivided into three parts—habitat, rhythmic and parasites. The requirements of adults, pupae and larvae are discussed with samples of typical conditions as preferred by certain species, illustrated with diagrams and numerous references. The described details of day-night, as well as seasonal changes indicate the diversity of conditions under which development takes place.

The largest chapter is on morphology and occupies 38 pages of text and figures. Under 11 subtitles the larvae, pupae and adults, are described and their functions explained. The structures of the head of an adult has been figured in great detail and it would be of great value if more details had been shown on the illustrations of an entire larval and pupal head as well.

The other criticism is on the very brief discussion on genitalia types. As an important tool to taxonomy a few more details would be very helpful, particularly so in the female. Although there is a brief description on p. 53 the figure 56, unfortunately, does not show details of segmentation. Anatomical details and physiology are treated more fully. Larvae are grouped into five groups according to the methods of case or retreat construction. Each group is discussed in considerable detail.

The text is concluded with a chapter on development, describing the mating behaviour, egg-laying, parthenogenesis, embryology and post-embryonic development.

A detailed index of scientific names and a list of 438 literature references complete this volume.

A. Neboiss,
National Museum of Victoria,
Russell Street, Melbourne, 3000.